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(71) Applicant: SHISEIDO CO LTD

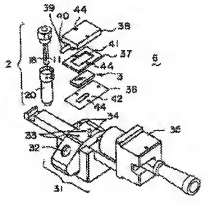
(72) Inventor: KIMURA TOMONIKO
SHIROTA OSAMU

(54) ELECTROCHEMICAL DETECTOR FOR LIQUID CHROMATOGRAPHY, LIQUID CHROMATOGRAPHIC APPARATUS, AND ANALYSIS METHOD USING THE APPARATUS

(57) Abstract:

PROBLEM TO BE SOLVED: To make an electrochemical detector for liquid chromatography usable even in an organic solvent, by suppressing adsorption of impurities on a surface of an operation electrode and sufficiently protecting an electrode main body at a reference electrode.

SOLUTION: In an electrochemical detector for liquid chromatography comprising a three-electrode potentiostat of a reference electrode 2, an operation electrode 3 and an opposite electrode 4, the reference electrode 2 constituting the three-electrode potentiostat has two cylindrical bodies, i.e., an inner cylinder 16 protecting and storing an electrode main body 11 and an outer cylinder 20. The inner cylinder 16 stores the electrode main body 11 together with an electrolyte, and the outer cylinder 20 stores the inner cylinder 16 together with an electrolyte. Therefore, the electrode main body 11 is protected double in a double structure by two electrolyte layers and cylindrical bodies. The operation electrode 3 is constituted so that it can change a potential periodically according to a program function of an electronic circuit 10 of an apparatus connected thereto.



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(71) 出願人（米国を除くすべての指定国について）
株式会社 資生堂(SHISEIDO COMPANY, LTD.)[JP/JP]
〒104-8010 東京都中央区銀座7丁目5番5号 Tokyo, (JP)
(72) 発明者；および
(75) 発明者／出願人（米国についてのみ）
木村友彦(KIMURA, Tomohiko)[JP/JP]
城田 修(SHIROTA, Osamu)[JP/JP]
〒223-8553 神奈川県横浜市港北区新羽町1050番地
株式会社 資生堂 第1リサーチセンター内 Kanagawa, (JP)
(74) 代理人
弁理士 伊東忠彦(ITOH, Tadahiko)
〒150-6032 東京都渋谷区恵比寿4丁目20番3号
恵比寿ガーデンプレイスタワー32階 Tokyo, (JP)

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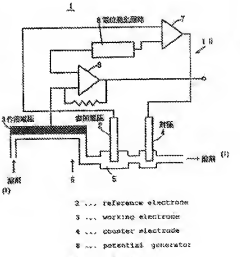
(54)Title: LIQUID CHROMATOGRAPHY ELECTROCHEMICAL DETECTOR, LIQUID CHROMATOGRAPH, AND ANALYZING METHOD USING THE CHROMATOGRAPH

(54)発明の名称 液体クロマトグラフィー用電気化学検出器、液体クロマトグラフィー装置、及びかかる装置を用いた分析方法

(57) Abstract

A liquid chromatography electrochemical detector can be used even in organic solvent by suppressing the impurity adsorption on the surface of its working electrode and well protecting the electrode main part of the reference electrode sufficiently. In the liquid chromatography electrochemical detector which is composed of a triode potentiostat having the reference electrode (2), the working electrode (3) and a counter electrode (4), the reference electrode (2) is composed of an electrode main part (11) and two cylinders, i.e. an inner cylinder (16) and an outer cylinder (20), in which the electrode main part (11) is housed and protected. The electrode main part (11) is housed in the inner cylinder (16) together with electrolyte in the inner cylinder (16) which is housed in the outer cylinder (20) together with electrolyte, constituting a double construction which doubly protects the electrode main part (11) with two electrolyte layers and two cylinders. The potential of the working electrode (3) can be periodically changed by the program function of the electronic circuit (10) of the apparatus to which the working electrode (3) is connected.



2 ... reference electrode
3 ... working electrode
4 ... counter electrode
5 ... potential generator
(1) ... solvent